5.0 SILVICULTURE POLICY ALTERNATIVES

5.1 INTRODUCTION

This chapter describes the range of silvicultural practices, including site preparation, reforestation, vegetation control, precommercial thinning and fertilization. **Table 22** (identical to Table 2) shows the projected use of these practices (in acres per year) in the 1990s. The biggest area of change has occurred in the use of herbicides for vegetation control. In prior decades, the department treated approximately 62 percent of state forest land. It now treats about 38 percent of the acreage. **Table 23** shows the projected use of these practices from the Forest Land Management Program (1984) and contrasts these projections with the actual acreage affected by these practices in the 1980s.

5.2 DISCUSSION OF SILVICULTURE POLICY ALTERNATIVES

Policy No. 30: Silviculture Activities

The preferred policy states:

The department will plan and implement silvicultural activities to meet trust responsibilities. In cases warranting special attention, the department will accept a reduction in current income or return on investment when the department determines it is necessary to provide extra protection for soil, water, wildlife, fish habitat and other public resources.

Three other alternatives were considered by the department.

Alternative 1: The department will plan silvicultural activities to meet trust responsibilities and provide extra protection for soil, water, wildlife, fish and aesthetics if it will not cause a loss in income or return on investment.

Alternative 2: The department will plan silvicultural activities to meet trust and legal responsibilities only.

Alternative 3, the no-policy option, would allow the department to plan silvicultural activities to meet trust responsibilities on a case-by-case basis with no statewide guidelines.

TABLE 22
Major Silvicultural Practices
Projected Acres per Year

Type of Activity:	**Projected Practices: (In Acres Treated Per Year)**
Site Preparation*	
No treatment	7,300
Burning	500
Aerial Herbicides	800
Ground Herbicides	20
Manual	200
Mechanical	200
Reforestation	
Planting	14,000
Natural	5,000
Aerial Seeding	50
Vegetation Control	
No treatment	14,300
Aerial Herbicides	3,500
Ground Herbicides	3,000
Manual (slashing)	7,000
Animal Damage Control	300
Other Activities	
Precomm. Thinning	7,500
Fertilizing	5,000

* Site preparation activities take place after timber harvest to prepare for reforestation.

TABLE 23
Major Silvicultural Practices (FLMP)*
Projected and Actual Acres Per Year

Type of Activity:	**Acres Predicted:** (1984)	**Actual Use:**** (Annual Range 1984-91)
Site Preparation***		
No treatment	NP	N/A
Burning	9,000	90 to 3,800
Aerial Herbicides	2,000	150 to 1,900
Ground Herbicides	NP	0 to 188
Manual	200	200 to 1,500
Mechanical	200	0 to 560
Reforestation		
Planting	NP	10,000 to 18,300
Natural	NP	1,000 to 5,000
Aerial Seeding	NP	0 to 800
Vegetation Control		
No treatment	NP	N/A
Aerial Herbicides	13,800	2,300 to 11,200
Ground Herbicides	NP	570 to 6,900
Manual (slashing)	2,300	1,300 to 8,500
Animal Damage Control	4,000	0 to 1,500
Other Activities		
Precomm. Thinning	5,000	6,500 to 19,600
Fertilizing	26,000	0 to 32,400

NP means no prediction

* The Forest Land Management Program (FLMP), which was approved in 1984, will remain in effect until the Forest Resource Plan is approved by the Board of Natural Resources.

** The range of actual use on state forest land while the FLMP was in effect. The low figure represents the lowest annual use (acres) in 1984-1990. The high figure represents the highest annual use in this time period.

*** Site preparation activities take place after timber harvest to prepare for reforestation.

Background

The department relies on silviculture -- the science and art of forestry -- to guide its actions in the field. In most cases, the Forest Practices Act and regulations provide adequate protection for plants, fish, wildlife, soil and water. Situations do arise, however, where it is desirable to provide a greater level of protection or to enhance the resource (for example, fish) in question. The decision whether to provide extra protection or not for a particular public resource will occur in the context of the landscape planning process (see Policy No. 16). The policy is new.

Comparison of Alternatives and Environmental Impacts

Each of the alternatives provides adequate environmental protection, and each meets the requirements of existing statutes, rules and regulations. The **preferred policy**, however, continues this policy and gives the department the maximum flexibility to generate income for the trusts while providing a high degree of environmental protection. The policy provides the opportunity to go beyond legal minimum requirements in those special cases where the department has determined there is a specific need. In those situations, the department will provide extra protection for the particular resources, such as fish, water quality, etc.

The current policy is a hybrid of Alternatives 1 and 3. It allows the department to provide extra protection (above the minimum legal requirement) on a site-by-site basis without approval from the Board of Natural Resources and without guidance from the Board regarding the extent to which this protection can impact current trust income and returns on investment.

Alternative 1 offers added protection only if there is no direct loss of trust income or return on investment. This alternative would allow the department to protect or enhance a resource such as fisheries or wildlife only if it did not cause a loss in income. Because these situations occur infrequently, the amount of protection would likely be minimal.

Alternative 2 does not allow protection in addition to legal requirements. It therefore represents a fundamental change from not only the preferred policy but the department's current activity. This policy does not fully take into account the need to offer additional protection in limited circumstances for soil, water quality, wildlife and other natural resources.

Alternative 3, the no-policy option, would allow the department to make the determination of how much protection (above legal minimums) on an ad hoc basis, without obtaining Board of Natural Resources approval or guidance for an overall policy.

Policy No. 31: Harvest and Reforestation Methods

The preferred policy states:

The department will select the harvest method which produces the best mix of current and long-term income, achieves reforestation objectives and integrates nontimber resource objectives identified in the Forest Resource Plan. Reforestation objectives must ensure adequate restocking, produce acceptable benefits to the trusts and protect public resources.

Two alternatives were considered by the department.

Alternative 1: The department will select the harvest, reforestation and site preparation methods which produce high revenue, achieve reforestation objectives and integrate other Forest Resource Plan objectives only to the extent that these methods do not cause a long-term monetary loss to the trusts and to the extent that these objectives do not interfere with efforts to maximize trust benefits.

Alternative 2, the no-policy option, would allow the department to use minimal practices for harvesting, regeneration and site preparation, so long as these practices and methods complied with the minimum legal requirements.

Background

The selection of harvest and reforestation methods is a vital part of the department's silvicultural activities. In the past, the department has treated harvest and reforestation methods as separate decisions. The new policy described above calls on the department to integrate the harvest and reforestation methods into a single, coherent silvicultural system that will generate income for the trust beneficiaries and protect long-term forest assets.

To accomplish this goal and achieve a proper balance between environmental impacts and financial returns, the department intends to conduct site-specific analyses and examine alternative methods of harvesting and reforestation.

The department is required by the Forest Practices Act to reforest state forest land within a certain period after harvest (i.e., three years in Western Washington on clearcut sites). The proposed policy and alternatives address the issue of how the department intends to select the most appropriate harvest and reforestation method. The department's goal is the establishment and growth of whichever tree species are best suited to the site, whether hardwood or conifer.

Comparison of Alternatives and Environmental Impacts

The **preferred policy** clearly identifies that the selection of the harvest and regeneration methods must balance present and future income and must consider the range of nontimber resources. It attempts to strike a balance between producing trust benefits, achieving adequate stocking and meeting the other environmental and social objectives (such as wildlife habitat protection and watershed protection) identified in the Forest Resource Plan.

The **preferred policy** will reduce the department's practice of clearcutting as the dominant harvest method on state forest lands in Western Washington. The use of shelterwood cutting, seed tree/reserve tree cutting and other techniques will become more common. These methods will be evaluated in the context of the landscape level planning process and the site-specific silvicultural prescriptions (see chapter on Forest Land Planning). The selection process will allow the department to better control the impacts of timber harvest on soil, water, fisheries, wildlife and aesthetics. The policy will also likely produce stands with more mixed species; it will allow the department to increase the use of natural regeneration. The use of burning for site preparation will continue to decline, as illustrated by **Table 22**.

In Eastern Washington, clearcutting has not been the norm. The department has preferred to use different methods of partial cutting in this region, and it expects this trend to continue.

Alternative 1, in contrast, places more emphasis on maximizing trust income (both current and long term). It limits the degree to which other Forest Resource Plan objectives can be achieved (they can be integrated only if the trusts do not suffer long-term loss). It provides for environmental protection but any measures above those required by law would not be used if they reduced trust income.

Alternative 2, the no-policy option, only emphasizes the production of current income and least-cost methods. In contrast with Alternative 1, which emphasizes the maximization of income for the trusts, this option stresses the reduction of department harvest and reforestation costs. It, too, meets the legal requirements for reforestation and environmental protection, but it limits the integration of other Forest Resource Plan objectives, such as watershed protection and wildlife, to the level required by law. Expenses for planting would be minimized. This alternative produces less than optimum trust benefits on many sites because it opts for the lowest possible cost now, a choice which may defer costs to the future. The alternative is weaker than the preferred policy because the department would not provide extra protection for nontimber resources beyond what existing statutes or regulations require.

None of the policies and alternatives will likely have a significant adverse impact on the environment. The reason is that the level of harvest is established by the sustainable, even-flow harvest policy (see Policy No. 4). The above alternatives will therefore not change the amount to be harvested in a given year. Rather, the policy options described above address the method by which the department will harvest and reforest these lands.

Policy No. 32: Green-up of Harvest Units

The preferred policy states:

The department will reduce the impacts of clearcutting and certain even-aged silvicultural systems by generally limiting the size of harvest areas to a maximum of 100 acres, requiring "green-up" of adjacent areas before harvesting timber and employing other techniques to blend these harvested areas into the landscape.

Two alternatives were considered by the department:

Alternative 1: The department will give careful consideration to how nontimber resources within a drainage are affected when deciding the size, distribution and timing of clearcut units. In general, clearcut units will be limited to less than 100 acres. There will not be a green-up requirement for adjacent harvest areas. (current policy)

Alternative 2: The department will reduce the impacts of clearcutting and other even-aged silvicultural systems by limiting the size of harvest areas to less than 240 acres. Interdisciplinary teams will review areas between 120 to 240 acres in size to assess impacts on nontimber resources. This alternative is similar to a no-policy option because it gives the department the widest latitude in dealing with this issue.

Background

Extensive timber harvest by clearcutting and other even-aged management methods is becoming increasingly undesirable in public opinion. The stark contrast of harvested areas next to forested landscapes is the chief reason behind the change in public opinion, though other environmental impacts are also of concern. Because many forest types are best managed by even-aged methods, the department intends to take steps to reduce these impacts.

Comparison of Alternatives and Environmental Impacts

The **preferred policy** provides new and strong direction to the department to limit clearcut size, regulate the timing of harvest areas and use other measures to reduce the visual impacts of clearcutting. The preferred policy continues the current 100-acre limitation on clearcuts but expands the restriction to other even-aged silvicultural systems (such as seed tree and final shelterwood removal). It also adds a "green-up" requirement and emphasizes the use of other techniques to reduce visual impacts.

This policy is commonly called "green-up" because it requires the department to have visible trees, at least four feet high, next to clearcut areas. The new policy will apply to state forest lands which have been or will be harvested by these even-aged methods: clearcut; seed tree; and final shelterwood removal. (Even-aged harvest methods or silvicultural systems involve cutting most of the trees on a particular site at one time to produce stands that are of the same relative age.)

Under the **preferred policy**, the department intends to restrict the size and timing of clearcut areas by prohibiting harvesting within 300 feet of another harvest area if the combined acreage of the areas exceeds 100 acres. When the average height of trees on a previously harvested unit reaches four feet in height, it is no longer considered a clearcut for the purposes of this policy. This tree-height requirement was selected because it is the point at which new trees are visible from a distance.